

Fig. 2

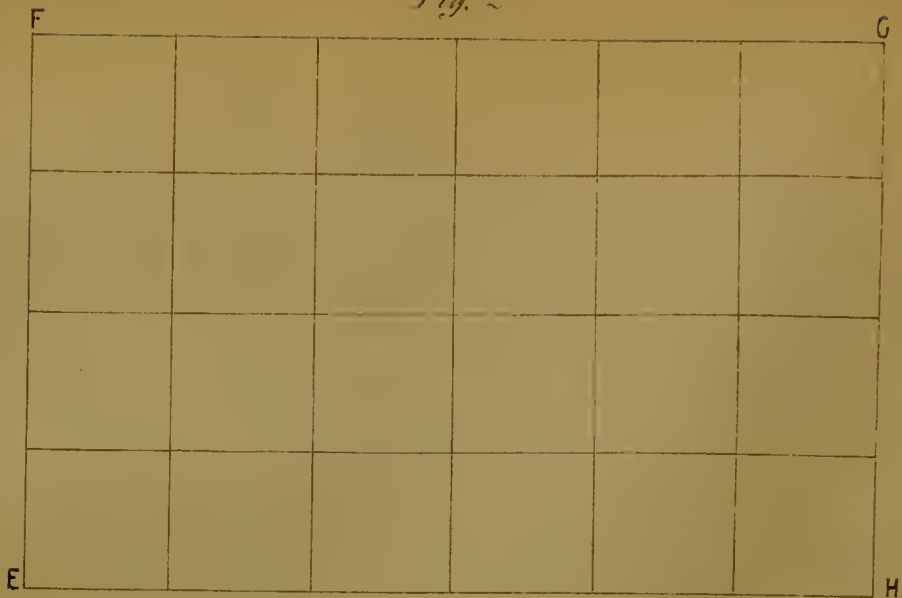
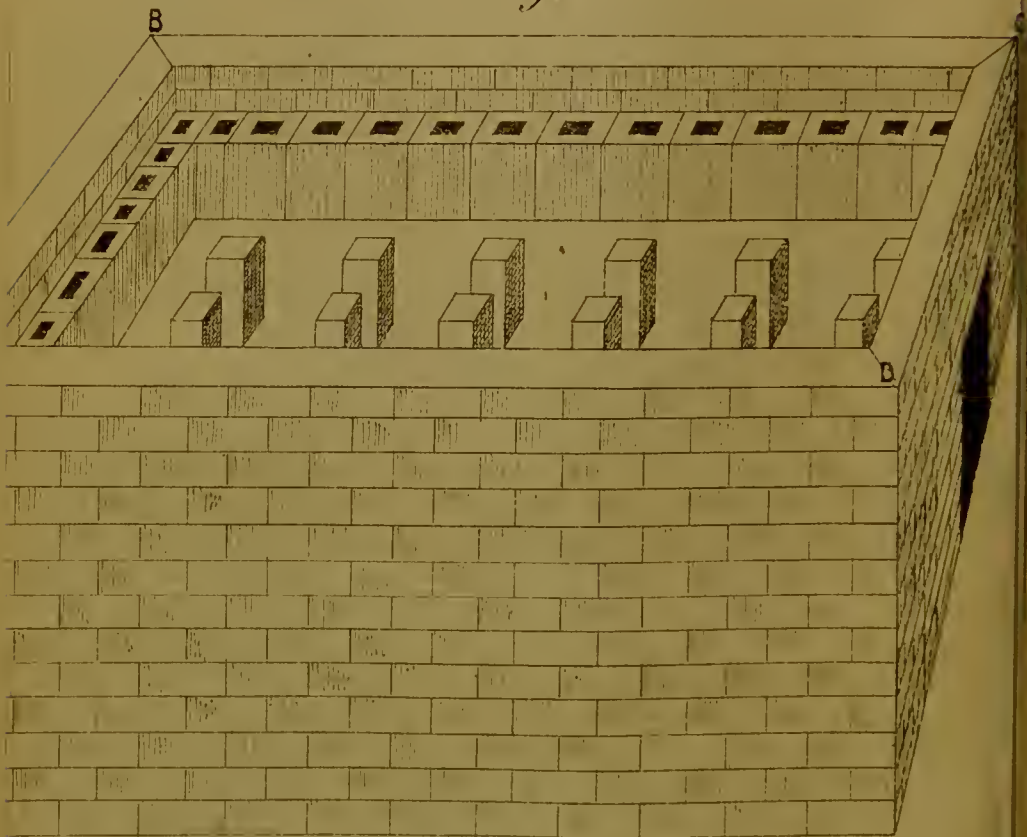


Fig. 1.



ROMAN HYPOCAUST,

AT WROXETER, IN SHROPSHIRE, ANNO 1701, BY MR. JOHN LYSTER.

EXPLANATION OF THE FIGURES.

1,—A B C D,—is a perspective view of the Hypocaust from above, showing
bars that supported the floor of sudatory; and the hollow flues, whose upper
D was on a level with the flooring and running round the room.

2,—E F G H,—is the flooring of square tiles, which lay upon the heads of
flues, and upon which was placed a *double* floor, made of very strong mortar
with coarse gravel and bruised or broken bricks. The first of these floors
lid upon the large tiles, and, when dry, the second floor was laid upon it.

3,—One of the hollow flues or tunnel-bricks, which communicated with each
by side openings.

4,—One of the brick pillars, 8 inches square; placed (when in situ) upon
or of 12 inches square, and having on the top a tile 2 feet square.

THE
USES AND ABUSES
OF
THE TURKISH BATH.

BY
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"THE TURKISH BATH QUESTION," AND SCIENTIFIC PAPERS ON "THE
VENTILATION OF HEATED ROOMS," "ECONOMY OF FUEL
IN BATHS AND DWELLING-HOUSES," &c., &c.

WITH
NOTES AND APPENDIX.

"For the most renowned of the Ædiles had, by virtue of their office, the inspection of those places where the people assembled, to see that they were kept clean and of a proper temperature; not a heat like that of a furnace, *such as has been lately found out*, proper only for the punishment of slaves convicted of the highest misdeemeanours."—*Seneca's Epistle*, lxxxvi.

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P R E F A C E.

AS MANY persons may not be aware of the nature of the process gone through in the Turkish Bath, the Author has deemed it advisable to add a description in a somewhat popular form, with notes in explanation and corroboration of its statements. Having been engaged in studying and advocating the Bath since the year 1856, he is not afraid of being charged with taking up the subject merely because it is popular. He would, moreover, remind the reader that the introduction of the Bath owes its success entirely to the enthusiasm of a few earnest and energetic men. Their names are recorded in this book, and will go down to posterity as the *true* "pioneers of The Bath," to whose exertions and writings its introduction into Great Britain and Ireland is mainly to be attributed; although it is not unlikely (*now that the field is won*) that others may endeavour to "enter into the fruit of their labours."

Liverpool, 30th March, 1861.

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PART I.

TURKISH BATHS IN 1861,

CONSIDERED IN THEIR SANITARY AND MEDICAL
ASPECTS.

THERE are few Sanitary Reforms, whose rise and progress can be more truthfully ascribed to individual effort, than the introduction of the Turkish Bath. It is not, perhaps, too much to say that but for the zeal and perseverance of Mr. David Urquhart, there would not be now a single one in the country.

His first intention was to introduce the bath exactly as used in the East. How far this has been effected, I will now endeavour to make apparent, in order to prevent any one from reasoning upon false premises in his judgment of the bath, and blaming it for faults which are only chargeable upon those who have made alterations in its principle. Many of the (so called) Turkish Baths, recently erected, are little better than the old Irish sweating-house, with another name.* The chief difference is in the more complex arrangement of the buildings, and the addition of douches and washing-places. When many bathers have been using the rain-baths, (and other clumsy modes of ablution practised in such establishments,) the air of the sudatorium becomes moderately moist, and then it is suitable for use as a remedial agent. But very often this is not the case, and generally speaking it is not intended to be the case, because it is argued that very high temperature cannot be endured when the air is humid. It has become quite common now for bath proprietors to boast of the high temperatures

* A full description of the Old Irish Bath, or "an tig alluis," may be found in my paper on "Hot-Air Baths," in the eleventh number of the Royal Dublin Society's Journal. Section X. 1858.

which are maintained in their baths, as if there was some peculiar advantage in converting the public into Salamanders.

It becomes necessary therefore to describe three kinds of Turkish Baths:—First, the Real Turkish Bath; second, the Medical Turkish Bath; and, third, the Pseudo-Turkish Bath.

The bath of the Turks has been described in Mr. Urquhart's *Pillars of Hercules*, (published in 1850;) in my pamphlet on "The Turkish Bath Question," (1860;) and in a lecture recently published by Dr. Spencer Wells.

The Medical Bath is a modification of that in ordinary use. Its therapeutical effects were *first* described in my paper on "Hot Air Baths," (read before the Royal Dublin Society, 26th March, 1858,) and have *since* been made the subject of medical papers by Dr. Wm. Cummins, Dr. Robert Wollaston, and a writer in the *Dublin University Magazine*.

When properly constructed, the Medical Bath is one in which provision is made for ~~ensur~~ing (at all times) sufficient moisture in the air to allow of free cutaneous action, to soften the skin, and produce copious perspiration. The good effects of external humidity will be understood from the fact that both the skin and the air cells of the lungs require moisture for the performance of their functions.

The last bath enumerated is the Pseudo (or imitation) Turkish Bath. To Dr. Thudicum belongs the responsibility of reading the only *medical* paper on this subject.* Its characteristic seems to be, that it is as dry as it can be made, and as hot as it can be endured, (or from 155° upwards.) Dr. Thudicum himself has endured it as high as 230° Ft.; and in speaking of its use as a remedy, he has painted it altogether "coulour de rose."

Several pamphlets have been published, professing to describe the mode of bathing practised by the ancient Romans; but it would appear from an erudite communication in the *Medical Times and Gazette*, by Dr. Francis Adams, that the process of the ancient Roman Bath was somewhat different from what they have described under that name. It consisted (under the Emperors) of four principal stages, including baths of hot and cold water, the warm plunge bath being with many the most important part of the whole process. Galen, in writing of it, says, "We frequently visit the bath, not in order to empty the body, but on the contrary, that it imbibe moisture, and be softened when it is immoderately dried." The whole of his description is also calculated to leave the

* This paper was read in London, on the 28th of last January. A detailed account of it appeared in *The Critic*, and an abridged one in *The British Medical Journal*, of the 2nd February. Dr. Tucker, of Sligo, also published a pamphlet on this bath last year, but it is chiefly devoted to sanitary questions.

impression on the mind that the Turks have very much simplified and improved the practice of the ancient Romans. There is one respect, however, in which I am inclined to give the palm to the ancients, (both Greeks and Romans,) and in which I think it especially becomes us to follow their example. All the large Thermæ, in addition to the Balnea, were provided with gymnasia for manly exercises. So long as they were frequented, the hot bath was used to refresh, and not as a mere luxury; and if gymnasia are attached to the Turkish Baths of this country we shall hear nothing of their debilitating tendencies. Moreover, all the good effects of the bath are enhanced by a previous visit to the gymnasium, and if this was done by every one, shampooing would be quite superfluous.

The gymnasia by themselves do not meet the wants of our town populations, who are condemned, by the nature of their avocations, to breathe continuously a much deteriorated atmosphere. This is the chief cause of the great mortality of large towns; and combined with the want of suitable exercise, is calculated to degenerate the human race.

For these reasons, I am most anxious to see gymnasia attached to all our large bathing establishments, so as to render them in some degree worthy of the title of "Thermæ." There will also be the further advantage of rendering the use of badly-arranged baths much safer than it could otherwise be; as, by previous exercise, the skin is in a measure prepared for the stimulus of high temperatures.

The practice of using high temperatures for bathing purposes was first publicly recommended in 1858, and has lately been referred to by Dr. Erasmus Wilson, (in his *Thermo-Therapeia*, page 31,) that gentleman considering the questions of heat and moisture "matters of detail, but not of principle." It is true that it is not easy to draw the line of distinction between different kinds of baths, but it must be drawn *somewhere*. Dr. Wilson cannot possibly mean to assert that there is no difference of principle between a Russian vapour-chamber (filled with steam) and the terrible oven recently described by Dr. Thudicum, before the Medical Society of London. His own statements as to the temperature which ought to be observed in Thermal Baths, are even incompatible with much desiccation of the air of the sudatorium.

Thus, he says, in his *Thermo-Therapeia*, "Of the practice of the Romans, as regards temperature, there is, I believe, no record; but viewing the Thermæ as it at present exists in the East, after its migration from the Tiber to the Bosphorus, we should be led to infer that a low temperature, that is, one not exceeding 120° or 130°, is that which was preferred; and I am of opinion, *that for most purposes*, at the present time, *that*

temperature would be the most desirable. In the case of invalids, it might be still further reduced, say to 115°, 110°, or even 105°, and for persons in health, while they are noviciates or inceptor candidates for the honours of the bath, 120° would be a proper heat."

In the foregoing statement, 110° and even 105° are spoken of as a sufficient heat in some cases; but from my practical experience of the subject, *I know* that a bath can only be obtained *at such temperatures*, when there is a considerable amount of vapour in the air of the hot room.

Those baths in which there is a deficient supply of vapour, may be known by the high temperatures which are maintained in them. This is not merely done from caprice, but because perspiration does not readily flow *in dry air*, except under the stimulus of enormous heat; and very often, even then, the skin cannot be made to act properly, and the bather is obliged to leave with a severe headache, or some more serious symptom. I say this, because I have seen it, notwithstanding Dr. Thudicum's assertion that "as soon as the hot air ceases to be agreeable, it produces undesirable, though quite harmless effects." He takes it for granted, because he does not find recorded the mischief done by over-heated baths, that therefore it does not take place.

Hitherto, those who were anxious to forward the cause of the bath, were unwilling to record what might have been only the result of accident; but when the custom of using excessive temperatures is represented as safe for the general public by a gentleman who is so well known as Dr. Thudicum, it becomes necessary to prove by facts that injuries do result from baths of this description. I do not wish to give the names of the places in which such misfortunes have happened, because, by doing so I should probably injure some individual in a pecuniary sense; but I feel bound to say that a good many cases of illness produced by (so called) Turkish Baths have come under my own observation, and I greatly fear that the prediction of *The London Review* will some day come to pass, viz., "Sooner or later some sudden death in the over-heated sudatorium will bring discredit on the Turkish Bath as *undeservedly* as the careless exhibition of chloroform, with a fatal issue, now and then clouds for a moment the public faith in that great annihilator of pain."

I may be allowed to speak with a certain degree of confidence on a subject which I have had so much opportunity of studying, both in the East and in this country; and the result of the most patient investigation has been, that such a bath as that described by Dr. Thudicum not only differs widely from the Turkish Bath, but, if generally adopted, would cause an

incalculable amount of injury to the physical health of the community.*

After all, this is only repeating the sentiments of the President of the Irish College of Physicians, written more than a year ago, respecting the kind of bath introduced in the year 1858, viz., "To one circumstance connected with the Turkish Baths of this country,—namely, the deficiency of a sufficient supply of vapour, the attention of the profession and the public for their own safety cannot be too earnestly called. Whether the defect arises from accident or ignorance it is a serious and dangerous mistake, and one that ought to be rectified without delay, and, *when rectified, these baths will become most useful medical adjuvants.*"†

Having had ample opportunity of convincing myself, that in thus writing, Dr. Corrigan had fairly stated the case, I now propose to show in what manner the mistake in question may be rectified, and also what kind of bath is best suited for the use of the public.

The hottest room or sudatorium of Medical Baths ought to be maintained at a temperature of 145° or 150° Fahr., and the amount of moisture in the air should be regulated by a hygrometric thermometer.

At this temperature, if it does not contain a *larger* amount of water than "the ordinary air we daily breathe," its capacity for moisture will not be satisfied, and *excessive* evaporation from the body will take place. In order to prevent this, the most effectual means that can be adopted will be the introduction of a small fountain, throwing up a fine spray, as has been done already in one establishment; and in another, the supply of moisture is obtained by the position of the lavatorium or washing-place.

For the use of the general public such a bath as this is both safe and pleasant; but if used habitually for several months, I believe it to be debilitating, because it promotes the cutaneous secretions too profusely. When used as a remedy it is invaluable, as I shall presently show; but for pleasure, expedition, and efficiency in cleansing the skin, it is decidedly inferior to the bath of the Turks.

In the latter, the air contains a considerable quantity of watery vapour, but not enough to constitute it a vapour bath. There is not a dense cloud of steam, but merely a slight haziness, which is not disagreeable. Its temperature has been

* In speaking of the bath I am obliged to ignore all personal considerations; and therefore wish it to be understood, that while I have the greatest respect, both for the motives and talents of the gentlemen to whom I have alluded, I feel that I would be neglecting a great public duty if I suffered what I believe to be error to pass without notice.

† This quotation is from a letter of Dr. Corrigan's to the Editor of *The Dublin Hospital Gazette*, introducing an admirable description of the Egyptian Bath, by Dr. R. R. Madden.

correctly described in a recent letter to the *Lancet*, by Mr. H. W. Kiallmark, (late Surgeon Ottoman Medical Staff,) viz.:—"It is quite true that a heat of 180° Ft. and even more, can be borne by the human frame, *when the skin is acting*, as Dr. Tilt has observed; but if all the good effects are attained by a temperature of 120°, I see no reason for increasing it. Twenty degrees above blood heat is enough to establish a copious perspiration; *and it should be an object to get this result with a minimum of temperature*. I have taken the bath at Constantinople, Smyrna, Sinope, and elsewhere; and though I cannot absolutely state the exact amount, it was my impression, and that of my companions, that the hottest room did not exceed 120° or 130°. In the Turkish Baths there is a considerable amount of vapour, not altogether arising from the water thrown on the heated floor, since a friend of mine took a bath at the Sultan Mahmoud Baths in Stamboul, *as soon as they were opened in the morning*, and found the building full of vapour."

We learn also from Galen, that the Romans were very particular about keeping the air of their baths moist, and of a proper temperature, viz.:—"Let the air of *all* the rooms be neither particularly hot nor cold, but of a proper temperature, and *middling moist*, which will be effected by *plentifully* pouring temperate water from the cistern, so that it may *flow through every room*."*

We see, then, that both in ancient and modern times the moist atmosphere has always been considered a "necessary and primary condition of the hot-air chamber," and not "an accidental occurrence," as some have described it.

The Eastern Hamâm may, therefore, be accurately entitled "The Hygro-Thermal Bath," and its principle is the same in whatever way the humid atmosphere is produced,—whether by a fountain, a small jet of steam, or by water thrown on the floor, or running in a stream through the bath.†

Its effects are, in a minor degree, the same as those of the Medical Bath; and because it is less powerful it may with safety be used more frequently. We know that any natural process which is supplemented by artificial means is liable to degenerate, and either to be followed by reaction or debility.

* The celebrated Lamartine has given a description of a bath taken by him at Beyrout, in which water was allowed to run over the floor from the fountains, until the whole place was covered half-an-inch deep.

† The Laconicum I understood when I saw the Moorish Bath, with the pot of water, heated from the fire below, boiling up into the bath. I then recollected that *there is in the Turkish Baths an opening, by which the steam from the boiler can be let in, although not frequently so used, nor equally placed within observation*. Many of the Turkish Baths have, doubtless, been originally Greek. The change in respect to the use of cold water is compensated for by the cold air of the outer room, into which the Turks come, and is preserved in the partial use of cold water for the feet. The hot water reservoirs, the labrum and solium, are still to be seen in the private baths: they are in those of the Alhambra.—*Urquhart's Pillars of Hercules*, p. 55.

No good can therefore be expected from continually exciting the skin to *abnormal* activity.

What is wanted for sanitary purposes is a thorough cleansing of the body, by opening the pores, and removing all obstructions to a due performance of the functions of the skin. Galen evidently took this view of the question, for he says, "Many persons do not stand in need of evacuation by the skin; but, on the contrary, being of a dry temperament, they require repletion rather than evacuation." Which means, that they stand in need of endosmosis rather than exosmosis.

If the stale (and oft refuted) objection of climate has any weight at all, it is in the case of the over-heated "Dry-air Bath," for the Roman Thermæ once existed in this country, and the Vapour Bath still exists throughout the whole of Russia and other very cold regions.* The truth is, that when we come to the tropics the bath disappears; for there one has only to walk out of doors to get enough of perspiration to satisfy him for some time.

Although I prefer the Real Turkish Bath for the use of the people, on account of the short time required for going through the process, yet there is no doubt that when powerful effects are desired, the Medical Bath is the best.

These effects may be stated as follows:—It increases the force and rapidity of the circulation, excites the lymphatic system, produces copious perspiration, and expels various morbid products from the blood, which is sensibly reddened by the rapid oxygenation which takes place in the bath.

From this short enumeration it may be seen, that under its use waste of tissue in the body will be accelerated. In this respect its effect is *directly the reverse of alcohol*, which (besides being itself an impurity) causes the retention of effete tissue in the body. And here I may remark that some of the observed effects of the bath are apparently paradoxical. Much oily matter is lost by very fat persons, (as might be expected;) but

* Les arrosements froids, c'est-à-dire, avec de l'eau à 8° ou 10° R, se pratique sur tout le corps immédiatement avant de quitter l'étuve. Cette pratique, la plus importante des bains Russes, a pour but de rafraîchir le corps du baigneur, de diminuer la sensation incommode de la chaleur, de modérer la transpiration, en resserrant momentanément les pores de la peau à laquelle ils donnent plus de tonicité, de réveiller l'énergie des systèmes musculaire et nerveux, et sympathiquement de tous les organes; de prévenir enfin la débilité, l'affaiblissement, suite inévitable de tous les autres bains de vapeurs, et de provoquer une réaction salutaire. Lorsque le baigneur a élevé la température de son étuve de 40° à 45° R, par exemple, et qu'il y est resté quelque temps, cette transition subite du chaud au froid, loin d'être pénible, fait éprouver une sensation agréable, que recherchent toujours avec empressement ceux qui ont déjà pris quelques bains. Immédiatement après cet arrosage, il semble qu'on reprend une nouvelle existence. A' la chaleur brûlante de la peau, qui commençait à fatiguer, succède une agréable sensation de fraîcheur; les battements du cœur, les pulsations du poulx, deviennent plus calmes, plus réguliers; la tête est libre, la respiration facile; les pieds sont plus agiles; les muscles, relâchés par la vapeur, ont recouvré et augmenté leur vigueur primitive; en un mot, on ressent dans tout son être un surcroît de vitalité et de force jusqu'à alors inconnu. —Lambert. *Traité sur l'hygiène et la médecine des bains Russes et Orientaux*; Paris, 1842. p. 68, 69.

if the appetite is freely indulged, the weight actually increases, the more bulky fat being replaced by solid muscular tissue.

It is this quality in the bath which renders it so valuable in the training of horses. When it is desired to diminish the weight, that can also be done (and has often been done,) by continued use of the bath with abstinence from carbonaceous aliments. The Romans used the bath to give them an appetite, that they might indulge their gluttonous propensities; and modern enlightenment may now use the same means in the cure of dyspepsia.

The rapid change of matter caused by the Thermal Bath is at once the chief source of its medical efficacy, and the great objection to its habitual use: for this very "wear and tear" of the human body (if continued for a length of time) will undoubtedly diminish the duration of life. The results of its employment as a remedy are, however, *of the most gratifying description.*

The complaints in which it may be used, in the confident expectation of benefiting the patient, are the following, viz. :—Gout, rheumatism, sciatica, vesical calculi, lumbago, some renal diseases, tic doloireux, incipient phthisis, passive dropsy, common catarrh, amenorrhœa, bronchitis, chronic internal congestions, *impending* fever, (accompanied by rigors,) ague, and various forms of neuralgia and skin diseases, (as the milder forms of psoriasis, ichthyosis, and sycosis menti.) Also, in all cases in which a poison circulates in the blood, or has been taken up by the lymphatics. Besides the above, insanity is mitigated, and the minor annoyances of corns and chilblains are got rid of by the use of the bath. Of all these affections, there is not one whose relief and cure by the bath is incapable of a sound physiological explanation, which is more than can be said of the operation of almost any other remedy in the same diseases.

The bath is, however, so far from being a "panacea," that it is extremely dangerous in a large class of ailments, of which the following are those best ascertained:—In skin diseases in which a large number of the sudoriferous and sebiparous glands have undergone organic degeneration. In all active inflammations, and organic affections of the heart. In cancer and fungoid diseases. In excessive plethora, apoplexy, epilepsy, epistaxis, advanced phthisis, centric paralysis, torpid liver, relaxed tendons and ligaments, menorrhagia, hæmorrhoids, varicose veins, frost-bites, and gangrene. To this may be added the exanthemata, in which the skin is often very much obstructed, and unable to respond to the stimulus of great heat, until first softened by moist applications at a lower temperature.

There are several cases in which the bath promises to do such good service that they require separate consideration. In burns and scalds the patient can at once be taken to the tepid room of the Hospital Bath, (temperature 120°,) and the irritation of clothing to the injured part be removed, without exposing the body to cold, whilst the rest of the skin does duty for the affected part. In chronic ulcers of the legs (at present the bane of hospitals) complete cures may often be effected, without doing the system an injury by removing the old drain of morbid matter; for the bath leaves *nothing to drain off*.

In all cases of poisoning (whether by irritant or narcotic poisons) the bath will place a double lever in the hands of the physician. In the first place, rapid elimination is set up the moment the sudatorium is entered, and the heat of the body is not suffered to fall. This is of the greatest importance; for the experiments of Dr. Brown-Séguard prove that in most cases of fatal poisoning, death takes place from cold, owing to the non-evolution of animal heat; and I have heard him say, that in many cases life might be prolonged or saved if the temperature could be kept up sufficiently long.*

But the greatest of all the triumphs of the bath consists in the absolute and complete elimination of various noxious substances known to exist in the blood. The bodies of artisans often become (I had almost said) saturated with various mineral poisons, of which the following are a few:—Arsenic, mercury, lead, antimony, sulphur, soda, and phosphorus. The latter produces a frightful species of necrosis of the lower jaw amongst the operatives in badly ventilated match-factories; and house-painters' colic and paralysis are familiar to every physician. I do not know of a single case of the removal of nitrate of silver from the sub-cutaneous cellular tissue and

* Of late years various physiologists, especially Kunde and Valentin, have shown of how great importance it is in the case of poisoning, or when from certain circumstances the functions of the skin have become suppressed, to *maintain an elevated degree of animal heat*. M. Brown-Séguard in 1849 had published some very decisive observations upon this subject, and, as his statements did not excite the attention which he thinks they deserved, he now republishes them, preparatory to more lengthened communications on the matter. Performing various experiments upon rabbits and guinea-pigs, he confirmed the results derived by Chossat and Prevost from those which they had performed on dogs, viz., that the simple lowering the temperature sufficiently induces death, and such diminution requires to be less considerable in proportion as it is rapidly produced. These facts being established it becomes very probable, if not certain, that in all cases—whether as a consequence of disease, wounds, or poisoning—when the temperature of man becomes lowered to a certain degree, there is danger to life from the sole fact of such diminution. This is the case in cholera, in sclerema, in certain paralyses, in cases in which the respiratory functions are deeply impaired, in fractures or dislocations of the spine with crushing of the medulla, in considerable hæmorrhages, and in most cases of poisoning, providing the patients continue to survive for some hours. It has long been known that the temperature diminishes after poisoning, and there is scarcely a case recorded in which the patient is not stated to have been cold; and from M. Brown-Séguard's experiments it results that all varieties of poison, however introduced, are capable of so reducing the temperature of rabbits and guinea-pigs, that death will ensue, provided that the animal has survived the introduction of the poisoning four or five hours.—*Medical Times and Gazette*.

rete mucosum, except one in which the patient (who was much blackened) became several shades lighter in colour during a course of Thermal Baths. There is also but one case of recovery from hydrophobia on record, and the credit of this is due to the Vapour Bath.

This was the case of a French physician, (Dr. Buisson,) who being summoned to attend a woman labouring under hydrophobia, after bleeding her, wiped his hands on her handkerchief, which was saturated with saliva. Having a scratch on the index finger of his left hand, he became innoculated with the virus, and the characteristic symptoms soon set in. He even felt a desire to run and bite people, and drank with gréat difficulty. When in this condition, he says of himself, "thinking of nothing but death, I sought the most speedy and least painful. I had long believed that a Vapour Bath would prevent hydrophobia, but not cure it. Resolved as I was to die in a Vapour Bath, I took Reaumur's thermometer in my hand, fearing that I should be refused the heat which I desired—42 degrees, (127 Fahr.) I was cured. I did not expect it. * * From that moment I never had a single sensation of the disease."

This result can only be due to one of two causes: either the great heat destroyed the virus, or the augmented action of the skin eliminated it from the blood; in either case we should expect a similar result—"a fortiori" from the Thermal Bath. In the case of a public Turkish Bath, fever cases *ought to be rejected*, as more danger would result to others from infection, than would be compensated for by the possible good done to the individual affected. The same may be said of Bright's disease, in which an intolerable odour is given off by the patient, who can be readily subjected to sudorification elsewhere if it is thought beneficial.

Dr. Thudicum has recommended the bath in cancer, but when that disease is fairly established, I do not think it safe. It is true that I have only seen it tried in one case, but that was a very remarkable one. The patient was a strong active man, with no symptom of the disease but a slight epithelioma, which some eminent surgeons mistook for another complaint. With a view to recovery, he took a course of Thermal Baths, and immediately on his return home, the glands began to be affected. The case was not only fatal, but extremely rapid in its course.

There is one sentiment of Dr. Thudicum's respecting the bath generally, with which I most cordially agree, viz., "As a physician, I felt placed in my hands the most powerful and certain, and at the same time the most safe and agreeable therapeutic agent in existence."

My previous warnings will acquit me of the charge of attempting to introduce a "panacea," but I do not feel called upon to withdraw the above statement, until it can be shown to be exaggerated, which I believe it is not. The bath which I have recommended for *popular* use, must stand or fall by its excellency as a sanitary agent. It is an antidote to alcohol and its pernicious effects, and is calculated to diminish many of the evils that flow from luxury, depraved appetites, and perverted civilization.

It would be a comparatively small thing to introduce a remedy for the effects of intemperance, but the bath takes away that morbid craving in which it generally *originates*, and restores the system to its natural condition. I say nothing about the *severe* shampooing often practised in the bath, as in most cases, it is merely a substitute for more natural exercise, and I do not consider it essential to the benefits to be derived from the bath as a sanitary agent.

I do not wish to assist in the introduction of a pernicious luxury; but I claim for the bath (when judiciously used) the possession of the most enduring advantages. I believe it to be true, that, by means of it, a man may "fortify his body, diminish his ailments, improve his temper, and prolong his life."

There is no reason why the lower animals should be "doctored" upon *principles* different from those which are applicable to the human race; and until this is acknowledged, veterinary-surgery can never emerge from its present degraded condition.

One circumstance only requires particular attention in the use of the bath for the lower animals. None should ever be put into it, except such as are capable of perspiring *freely*. The only domestic animals which one would expect should be benefitted are the horse, the cow, and the pig; and accordingly we do find that these animals have derived much good from its judicious employment; and (for reasons mentioned in the preceding paper) it has also been used with advantage in giving that firmness of flesh which is so essential in the process of *training*.

It is but just that honourable mention should be made of Dr. Barter, of Blarney, in connection with the introduction of Turkish Baths into Great Britain and Ireland. Not only was he the first person in the country to build a bath, but he has exerted himself ever since most effectually in establishing them in all directions.

Not less than one hundred and fifty establishments are now in full operation in various parts of the kingdom, some of them constructed at great expense, and others in the most simple manner.* Not a few of these baths, however, are merely speculations of persons unacquainted with the system pursued in the East; and are maintained at a very elevated heat, which is quite unsuitable for the general public, as will appear from the following reasons, viz. :—

First. Many persons are unfit for the endurance of the *high temperature*, from the condition of their skin, or from organic disease of whose existence they may not be themselves aware. Having no medical advice, they incur great danger, from increased action of the heart, or from head symptoms.

Secondly. The greater the amount of moisture which is compatible with comfort in the bath, the quicker will it be over, and the more effectual its cleansing properties.

It is obvious that in this case not only does the bather *lose no time*, but the bath can accommodate a *greater number of customers in the same space of time*, so that the proprietor can afford to give a bath *cheaper* than if it was on a different principle.

To these may be added another objection, already mentioned, viz., the action of the dry-air-bath on the perspiratory glands is too violent, and the waste in the system too great, to allow of its being used habitually for a length of time, without producing an injurious effect.

This waste is produced by a process of oxidation, analogous to what takes place in the iron bars of a furnace; whose rapidity of destruction is exactly proportioned to the intensity of the heat, and the freedom with which atmospheric air is supplied.

It is by no means necessary that an unvarying temperature should be maintained in the bath; but I should myself recommend that the following limits should be carefully attended to, viz. :—Frigidarium, 55° to 75°; Tepidarium, 100° to 120°; and Caldarium, 120° to 145°: the heat which is sufficient, necessarily varying with the amount of moisture in the air of the Sudatorium.

* Several *private* baths have been the means of drawing much attention to the subject. The first of whose erection I am aware, was built by Mr. G. Crawshay, of Newcastle-on-Tyne, at a cost of £100; subsequently, a very good one was built by Mr. Mahony, of Dromore, county Kerry; and another by Messrs. Malcomson, of Portlaw. By far the finest of these private establishments, however, has been constructed for the Marchioness of Conyngham, near Salisbury, under the superintendence of Dr. Barter, of Blarney. More recently, a small but elegant Sudatorium has been built by Mr. George Witt, of Prince's Terrace, London, which has attracted a good deal of attention, and has been the means of gaining a new and powerful advocate of the bath in Dr. Erasmus Wilson, author of an admirable treatise on healthy skin, &c. The exertions of Sir John Fife, of Newcastle, in causing a Sudatorium to be added to the Infirmary of that town, are also deserving of the thanks both of the medical profession and the public.

PART II.

THE ORIENTAL BATH.

THE ORIENTAL BATH, which is now commencing to attract some attention in this country, is remarkable both for its antiquity, and for the influence which it has from time to time exerted upon national character—I had almost said, upon the destiny of nations. At this moment it is in daily use amongst some millions of people, and formerly existed throughout almost the whole of Europe, where, strange to say, it has become forgotten during the lapse of several centuries, and is only to be found in that corner of Europe occupied by the followers of Mahomet. For this reason it is best known to the Western nations by the name of “The Turkish Bath,” having been described under that name in most of the accounts which have been brought before the British public. But the truth is, that there is scarcely a nation in the East which does not possess a somewhat similar institution; and even the wild red man of North America, is in the habit of employing a kind of bath, as a remedial agent, which much more nearly resembles it than any of the baths which the public here are acquainted with.*

* The following interesting letter from the celebrated founder of Pennsylvania was received in the year 1702 by Dr. Baynard, and published by Sir John Floyer, of Lichfield:—

“As I find the Indians upon the continent more incident to fevers than any other distempers, so they rarely fail to cure themselves by great sweating, and immediately plunging themselves into cold water, which, they say, is the only way not to catch cold. I once saw an instance of it, with divers more in company. For being upon a discovery of the back part of the country, I called upon an Indian of note, whose name was Tenoughan, the captain-general of the clans of Indians of those parts. I found him ill of a fever, his head and limbs much affected with pain, and, at the same time, his wife preparing a bagnio for him. The bagnio resembled a large oven, into which he crept by a door on the one side, while she put several red-hot stones in at a small door on the other side thereof, and then fastened the doors as closely from the air as she could. Now, while he was sweating in this bagnio, his wife (for they disdain no service) was with an axe cutting her husband a passage into the river, (being the winter of 1683, the great frost, and the ice very thick,) in order to the immersing himself, after he should come out of the bath. In less than half-an-hour he was in so great a sweat, that when he came out he was as wet as if he had come out of a river, and the reek or steam of his body so thick, that it was hard to discern anybody’s face that stood near him. In this condition * * he ran to the river, which was about twenty paces, and ducked himself twice or thrice therein, and so returned, (passing only through his bagnio to mitigate the immediate stroke of the cold,) to his own house, perhaps twenty paces further, and,

There is a prevailing prejudice that the Eastern Bath always was, and always must continue to be Eastern, being only adapted for tropical climates. But if we turn to the page of history, we shall soon have our doubts dispelled upon this point; for we find, that not only the ancient Greeks, but also the Romans, were acquainted with its virtues, and thought no expense too great in promoting what they justly considered the basis of all sanitation—the cleanliness of the people. Nor were the ancient physicians unacquainted with its remedial virtues; these baths being often prescribed by Hippocrates, Galen, and Celsus, together with the frictions which now form a part of the process. Again, we find Homer singing their praises in the *Odyssey*; and Herodotus tells us that the Scythians used them after the Trojan war.* Other authors

wrapping himself in his woollen mantle, lay down at his length near a long (but gentle) fire in the middle of his wigwam, or house, turning himself several times till he was dry, and then he rose and fell to getting us our dinner, seeming to be as easy and well in health as at any other time, &c., &c.,

“WILLIAM PENN.”

Similar accounts of this Indian custom are given in Cox's *Columbia River*, and by Mr. R. B. Gent, in his *History of Virginia*; the chief difference being, that in the two latter cases water is thrown or sprinkled on the stones, so as to render the air somewhat moist. It also appears that in Guatemala “*the humid air-bath*” is used as a simple luxury, without reference to its medical virtues, as may be seen from the following extract:—

“Water is in that valley, in certain seasons, a commodity rather difficult to get at from the village, (Santa Catarina,) as the descent to the river is a work of good three hours. I suppose that this inconvenience for frequent bathing must have been the source of a peculiar custom of the people, said to be as ancient as their tribe. This is the use of hot bath-houses. *Every house* has next to it one of them, in the shape of an oven, built of sun-bricks, or round stones. It has no opening but a low door near the ground, big enough to allow a person to creep into it. The interior is heated by means of hot stones. *A bowl of water is put in*, the naked bather hocks on the ground, and the door is closed upon him. The heat evaporates the water in the bowl, and surrounding the body with an *atmosphere of warm moisture*, accelerates the process of evaporation, that soon streams down the skin like rain. When the bather feels himself thoroughly soaked, he comes forth, rubs himself dry, and is thus well bathed. In the Sierra Nevada, in California, I have seen similar huts, *built of reeds and earth*, for a similar purpose, but only used by the Indians there in cases of disease. The Caterina Indians are described as the most famous throughout Guatemala for carrying the heaviest burdens on their backs, over the worst of roads, for the longest distances, and in the shortest time; their products are all carried thus to the market of Guatemala. They generally go in bands of thirty or forty, Indian file, dog's trot, with the chief at their head, and each with his long staff, their support and their commonest weapon. Each with nearly two hundred pounds' weight on his back, supported by straps round the forehead, shoulders, and waist, bending forward, they go thirty miles a day without fatigue, and in good time; and no rider has any chance with them in the steep parts of the road.”—*G. F. Von Tempsky's Mitla: a Journey in Mexico, Guatemala, and Salvador, in 1853-5.*

* Rawlinson's translation of the passage is as follows:—“They make a booth, by fixing in the ground three sticks inclined towards one another, and stretching around them woollen felts, which they arrange so as to fit as close as possible; inside the booth a dish is placed upon the ground, into which they put a number of red-hot stones. Taking some hemp-seed, (*i.e.*, cannabis Indica,) and creeping under the felt coverings, they throw it upon the red-hot stones; immediately it smokes, and gives out *such a vapour as no Grecian vapour bath can exceed*. The Scythians delighted, shout for joy!” In the translation of Stephanus, Book iv., chap. 73, we find the following testimony to the prevalence of this custom, in a continuation of the same passage, viz.:—“*Externis hi ritibus uti magnopere cauent, ne mutuo quidem inter se; sed Græcorum præcipue utique posteaquam deprehenderunt Anacharsin, et deinde iterum Seylem, siquidem Anacharsis quum multum orbis terrarum contemplatus esset, et multum in sapientia profecisset, cum ad mores Scythiarum pertulit.*”

The allusion in the *Odyssey* is to a *water-bath*; but the author was misled by the following passage in a French writer:—“*Malgré l'imposante autorité de Baccius, il est certain que le vieil Homère chanta ces Bains dans l'Odyssee.*”

speak of their existence amongst the ancient Egyptians, Indians, Chaldæans, and Persians; and Justin informs us that they were introduced by the Romans into Spain as early as the second Punic war, (146 B. C.) We are also informed by Baccius, that after the conquests of Julius Cæsar, they then passed into Germany, Gaul, and the British Islands, where they were employed for several hundred years.* Even now, very fine remains of these buildings are to be seen in different parts of France and other European countries, which are sufficiently perfect to show the principle upon which they were constructed.†

It is of great importance that this principle should be well understood; because the efficacy of the bath depends (even for its cleansing properties) upon *the amount of heat and moisture* to whose influence the skin is subjected. To persons who are unacquainted with "The Eastern Bath," hot water and soap will, no doubt, appear the most effectual means of removing extraneous matters from the skin; but, we shall presently see, that although these very useful adjuncts are not omitted in the bath, they do not constitute it; but rather form its concluding feature. In principle it may be compared to an oven, large enough to walk about in, and lighted from the top, that you may see what you are doing. In it the bather is surrounded by a medium of *heated air, containing a little moisture*—just sufficient to soften the skin, and to prevent any disagreeable effect being produced upon the lungs, (except in case of delicacy of the pulmonary system,) and not sufficient to interfere with the free exit of the cutaneous excretions, which are partly gaseous and partly liquid, holding in solution certain organic salts, of which the nitrogenous are those whose expulsion most benefits the system.‡

In this bath, water is not absorbed by the skin, as in the Russian Vapour Bath, or the steam baths of this country; but, on the contrary, it is given off both from the pulmonary and cutaneous surfaces in surprising quantities.

* It is curious that whilst Antiquarians are now puzzling themselves about the remains at Wroxeter, an account of a hypocaust found there should have been laid before the Royal Society 160 years ago. The reader will find annexed a faithful representation of it.

† Les départements du Rhône, de l'Ain, de la Sarthe, du Doubs et de la Seine, nous offrent partout des ruines d'étuves ou d'aqueducs magnifiques qui servaient les alimenter. Ces débris, épars çà et là, sont autant de témoins vivants, qui semblent n'avoir résisté à l'injure des siècles que pour nous reprocher l'injuste abandon dans lequel est tombée cette pratique salutaire, à laquelle nos ancêtres attachaient tant d'importance.—*Propagateur Homœopathique*, 4th June, 1857.

‡ Les expériences rapportées dans ce travail signalent la découverte dans la sueur d'un nouvel acide azoté, l'acide sudorique, et qui s'y trouve à l'état de sudorates alcalins. La formule de cet acide le rapproche, à certains égards, de l'acide urique, acide qu'on ne retrouve pas dans la sueur.—"CHIMIE PATHOLOGIQUE," par BEQUEREL et ROMER.

Many persons feel a dislike to the idea of their skins performing their natural function; and would restrict the mention of perspiration to the lower orders of society. But the law of nature is inexorable! If man will not eat bread "in the sweat of his face," it has been ordained that he shall not eat the bread of health. The functions of the skin are absolutely essential,—not merely to the preservation of health, but even to the existence of the individual, as has been proved by direct experiment.

Dr. Berard (Professor of Physiology in the Parisian School of Medicine) thus expresses himself on this point, "*Lorsqu'on enduit d'un vernis impermeable la peau d'un mammifère, on voit l'animal succomber au bout d'un certain nombre d'heures.*"* And every surgeon knows that the danger to be apprehended from a burn or scald is in proportion to the extent of surface that has been injured. Nor need this excite our surprise, when we consider the immense number of perspiratory glands with which the skin is studded throughout its entire extent. In one square inch of surface of the palm of the hand, Dr. Erasmus Wilson has counted no fewer than 3,528 of them; each furnished with a little duct, and having an open mouth.

The quantity of water exhaled from the entire surface of the skin is estimated at about two-and-a-half pounds in twenty-four hours; or about half as much more than that exhaled from the mucous membrane of the lungs in the same time; and the quantity of carbonic acid gas is very considerable: while the amount of nitrogenous effete matter transpired through the skin has been calculated at about one hundred grains per diem.

The advantage derived from the expulsion of effete tissue in this way can hardly be over-estimated, inasmuch as it is the most direct way in which it can be got rid of; while it relieves internal congestions, and is most favourable to the capillary circulation.

It may also be observed, that many substances are exhaled by the lungs besides carbonic acid gas and watery vapour; and that when the body is subjected to the action of heated air, their amount is still further increased; a phenomenon which cannot take place if the air respired be heavily loaded with vapour.

The vapour-box, which allows the bather to breathe the external atmosphere, is also liable to objection, on account of the great care which is required for its administration; because the quantity of vapour in contact with the skin is so great, that it condenses upon it in drops, and is mistaken for perspiration,

* Translation:—"When one covers the skin of a mammal with an impermeable varnish, he sees the animal perish at the end of a certain number of hours."

whose passage it really impedes, and whose natural action of cooling the skin by evaporation it wholly prevents. Thus the safeguard which nature has appointed against a too great elevation of temperature, is virtually taken away; and, in delicate persons, the most serious effects are thus frequently produced, for want of that solicitous attention which alone can prevent accidents from the use of an apparatus so defective.

Here we see the great superiority of the Oriental Bath over those vapour-chambers with which it is commonly confounded: for the *small quantity of vapour* which is found in it, is only that which is produced by the water which is spilled on the hot floor during washing; and produces an agreeable, soothing effect, instead of the suffocating sensation which one experiences in those gloomy dens called vapour-chambers!

A little consideration will suffice to show us that any contrivance by which vapour is admitted from the exterior by means of pipes, is liable to the above-mentioned objections; nor can anything approaching to a genuine Oriental Bath be obtained, except in a building specially constructed for the purpose.

It is possible to remain in a Turkish Bath four or five times longer than in any other; and when the constitution has become inured to it, it is difficult to assign any limit to the length of time which a man may remain in it. The bathmen, or "Tellaks," of Constantinople have their apartments in the building, and are many hours a-day occupied in the hot chambers.

The idea of a bath without water seems to many people quite incomprehensible; but it is certain that the skin may be purified, and the body relieved of many extraneous matters, without the assistance of a denser medium than that which I have described. It is, in fact, that which is most favourable for the removal of dead skin, with its attendant impurities; upon which the ordinary warm bath produces but a comparatively insignificant effect.

In the Turkish Bath this gradual softening of the skin is accomplished in the second, or middle chamber, and which corresponds to the Tepidarium of the Romans. Here the bather, divested of his clothes, and having one towel loosely wrapped round his loins, and another over his shoulders, reclines at his ease, on a low couch, and smokes his long tchibouk or narghilé, and drinks some warm fluid, generally coffee or sherbet.

In this manner perspiration is gradually established, and the skin becomes soft, when it is time to enter the hot-chamber, or Caldarium of the Romans. Here systematic shampooing is performed for those who desire it; and with those who take no exercise it must have a very beneficial influence upon the

muscular and circulatory systems. The bather lies upon his back ; and while in this position, the bath-man presses him all over, with a kind of kneading motion, and twists his joints about in a most extraordinary manner ; so that, if a Western, he is apt to think such treatment rather an infringement upon his dignity.

During this process, I need hardly say that the perspiration has become profuse ; and the skin is ready for the use of the glove, which is made of goat's or camel's hair, woven in a peculiar manner. With this the body is rubbed in such a way as to detach the superabundant cuticle in little rolls or flakes. But it requires great dexterity to perform this well, without rubbing some places too much, and others too little. Bath-men who can do this skilfully are sure to earn high wages ; and they are difficult to be got.

After a considerable quantity of lifeless matter has been thus removed, the bath-man rubs up a great quantity of soap-lather in a large bowl, and washes the head of the bather. And this I always found the most disagreeable part of the bath ; as they generally contrived to put the soap into my nose and ears ; and if I had not shut my eyes very tight, I should inevitably have been half blinded. It is then usual to pour water over you several times, and leave you the remainder of the soap-lather to complete your own ablutions. All this time you are seated upon a most uncomfortably hot flag, which might be very advantageously replaced by wood, or some other non-conducting material. Then you are brought back to the second chamber, still shod with the wooden pattens which you put on before entering, to keep your feet off the hot flags ; and having been lightly wiped, the dripping towels, with which you have been clad, are replaced by dry ones, the head not being forgotten.

The utmost decorum is observed in all these operations ; far more so, indeed, than in any public bathing place in these countries. You are next brought back to the cool chamber, or *Frigidarium*, in which you deposited your clothes on entering ; and again reclining on a couch, well swathed in warm towels, you smoke some light tobacco and drink some more coffee. Here the sensations are truly delicious. They are these of health, in which existence alone is sufficient to give pleasure, and in which we need only lie still to be happy. But they are not restricted to the hour, or even the day of the bath ; but a lightness and cheerfulness for several days afterwards are the just reward of the care which has just been bestowed upon the body. The *appearance* of cleanliness may be counterfeited by the starched linen which so often covers a multitude of impurities ; but the *attainment*

of the reality is necessarily accompanied by self-respect and dignity of mind.

In the bath we have a pleasure which is not a vice—a luxury which does not tend to shorten life;—which may become universally obtainable; and which, as soon as there is sufficient demand for the article, to give encouragement to capital, must inevitably become cheap. It is the best purifier of the blood; for even poisons can be thus eliminated in large quantities, and for this reason, it is difficult to produce inebriation in one who makes frequent use of the bath. It is the best of all cosmetics, for the Mussulman scarcely knows of the existence of those loathsome skin diseases which are here so prevalent.

In Turkey, rheumatism never reaches the chronic incurable stage which it does with us; and gout itself is known only as a disease of the Franks. It would be easy to mention other diseases from which it produces immunity; but it may be sufficient to remark that the Turks, whose other habits are (almost without exception) unfavourable to health, are very seldom ill; and longevity would appear to be more common with them than amongst us.

Is it an unfair or overdrawn conclusion, to attribute this to the great attention which they bestow upon the functions of the skin, when no other explanation is obtainable to account for it? But this is not all; physiology informs us, that the lungs are not the only organs of respiration, but that the skin has a vicarious action which assists them, and to a great extent supplies their place in certain cases.

I quote again from Professor Berard's work on Physiology :
 “Il se fait au contact de l'air avec la peau, un échange de gaz qui constitue, surtout chez certaines especes, une veritable phénomène de respiration; c'est la respiration cutanée. Non seulement il y a dégagement d'acide carbonique, absorption d'oxygene, et même exhalation d'une petite proportion d'azote; mais l'acte a les mêmes conséquences, et presque la même portée que celui de la respiration pulmonaire, puisqu'il peut suppléer celle-ci pendant un temps plus ou moins long. Bien plus, nous verrons que, la respiration pulmonaire devenant insuffisante pour certaines especes, et dans certaines conditions de temperature, la mort deviendrait inevitable, si la respiration cutanée ne fournissait l'appoint necessaire pour prevenir l'asphyxie.”*

* Translation:—“There takes place in the contact of the air with the skin, an exchange of gas, which constitutes, particularly in certain species, a real respiratory phenomenon; it is the cutaneous respiration. Not only is there disengagement of carbonic acid, absorption of oxygen, and even exhalation of a small proportion of nitrogen, but the act has the same consequences, and almost the same scope, as that of the pulmonary respiration, inasmuch as it can substitute it during a time more or less

Thus we see that attention to the state of the skin is a matter of great importance, especially as the other emunctories of the system are quite insufficient to get rid of the noxious substances which we are perpetually swallowing, or the miasmatic exhalations which so often surround us, and are absorbed into our blood; nor even to dispose of the excess of wholesome but superabundant aliment which we impose upon our stomachs. It would not be too much to assert, that a very large proportion of human disease is traceable to an excess of carbon and hydrogen, or (what produces a similar result) a deficiency of oxygen in the system; the latter element being that by combination with which the two former are consumed, or burnt off, and exhaled from the skin and pulmonary mucous membrane in the form of carbonic acid gas and watery vapour. When the functions of the skin are not performed, it is manifest that the lungs and other organs will have additional work to do, and are, in fact, overtasked, the result being an unnatural accumulation of certain elements in the body, and then the efforts of nature to expel them (which are denominated disease) take place. This I believe to be the true theory of bilious attacks, and other great functional derangements, which assume all at once a virulence which would be quite unaccountable, were the *recent* habits of the patient to be *alone* taken into account. In that poisoning by lead, which is so common amongst house-painters in this country, we observe the same phenomenon. On the other hand, when the blood undergoes frequent purification, the same result cannot occur. For example, I have been informed by Dr. Pierre Calyn, Physician to the Artillery Hospital of Constantinople, that Colica Pictorum is rare amongst the workers of lead paints in that city; and that rheumatism, when it exists, is invariably cured by the bath. With regard to the effects of alcohol upon the Turks, I may state, that during a month's sojourn in Constantinople, I never saw a drunken man or witnessed a street brawl; although I have the authority of Dr. Millengen for stating, that already there is a large consumption of intoxicating liquors amongst all classes of the population, this being usually the first *blessing* which civilized nations confer upon their less sophisticated neighbours.

Frequenters of the bath appear to enjoy the same immunity from the ill effects of tobacco-smoke, which they draw *into their LUNGS*, by means of a peculiar pipe which can only be kept lighting by doing so. The practice of eating opium I have had no opportunity of observing; but it is spoken of as

long. Moreover, we see that the pulmonary respiration becoming insufficient for certain species, and in certain conditions of temperature, death would become inevitable if the cutaneous respiration did not furnish the addition necessary to prevent asphyxia."

being prevalent, and coffee is drunk upon every possible occasion.

Those physicians who have had the greatest experience in attending the Turks, (and especially Dr. Millengen, the Sultan's Physician,) believe that these happy results are attributable to the use of the Hamâm; and that the three hundred baths which the public of Constantinople have access to, are really substitutes for a certain number of hospitals, which must otherwise be built!

The general public appear to have access to only two or three hospitals, which I visited, but did not find at all crowded, although the population of the city and suburbs is not less than 700,000 souls.

With regard to the liability of taking cold after these baths there is no exception made in the Mussulman's obligation to resort to them, to suit changes in the seasons; and I myself was not deterred from using them by either wet or windy weather; both of which I encountered during my residence in "The City of the Sultan."

It is, however, proper to add, that there are circumstances in which it would be highly injudicious to resort to the bath; and that accidents, amongst those who are unaware of the precautions to be observed, are by no means unfrequent.* But, on the whole, the balance of advantages is decidedly in favour of this sanitary institution.

It has been objected to adopting any Turkish custom, that we are very much superior to the Turks, and do not need to learn anything from them; and in the matter of cleanliness least of all, because every traveller brings back word of the dirtiness of Constantinople, and other Eastern cities. But when we take into consideration the want of public corporations for paving, flagging, or sweeping their streets, we can easily conceive the condition in which wet weather will leave them, even amongst the most cleanly population. Therefore we must not judge of Eastern habits from this point of view; as we find, on entering the houses, that the most scrupulous cleanliness is observed in all the interior arrangements.

But the true answer to such objections, is simply, that the institution is not Turkish at all, but co-incident with every stage of Eastern civilization, and at one time was possessed by the greater portion of Europe, and even by Great Britain itself,

* The following quotation from Dr. Beyran (late Head-surgeon to the Hospital of Yedi-Koulé of Constantinople) will serve to show the necessity for caution on the part of invalids taking these baths:—"Les voyageurs et les militaires expéditionnaires en Orient, trouveront bien dans les Bains Turcs, toutes les conditions nécessaires à l'entretien des fonctions de la peau; toutefois, ils ne devront en user qu'avec une extrême réserve. Les individus à tempérament lymphatique ou sanguin, ceux qui sont disposés aux congestions cérébrales, ceux enflés, qui sont affectés de maladies du cœur et du poulmon s'en abstiendront complètement."

so long as the Romans held dominion in these islands.* The causes which led to the abolition of the Roman *Thermæ* were sufficiently numerous; but they are believed to have originated in a mistaken hostility of the Christian bishops, when they came into power, to some heathen customs which had become associated with immorality.† However this may be, there is no doubt that a more enlightened philosophy is now disposed to care for the body as well as the mind, and to promote all sanitary improvements for their moral, as well as material influences.‡ Nor can any permanent social progress be expected apart from the two great bulwarks of public health:—bodily exercise adapted to every portion of the muscular system, and a mode of ablution, which inwardly and outwardly cleanses the body of all its impurities.

* “The habitual use of the Vapour Bath is peculiar to that great Scythian family, from the Tartar branch of which the Turks derive their origin. The Greeks and Romans, whose language, from its resemblance to the modern Russian in terms essential to the very existence of society, proves a preceding relationship, used the warm bath as it is still used in the Russian and Turkish empires, *from the northern extremities of Europe to the neighbourhood of the tropics*; while the Gothic families, who overspread and settled in the western empire, suffered the Vapour Baths to fall into disuse. *But the custom itself is certainly derived from the north.* The inhabitants of the temperate climates, and still more those in the southern latitudes, would naturally prefer the refreshment of cold bathing. The Turks, however, whether they adopted or inherited the custom, found it established in the eastern empire, and perpetuated the use of it. The public baths are elegant and noble structures, built with hewn stone: the inner chambers are capacious, and paved with slabs of the rarest and most beautiful marble.” —*Thornton’s Turkey*, 1807, p. 314.

“A residence of fourteen years in the British Factory in Constantinople, and about fifteen months at Odessa, on the coast of the Black Sea; occasional excursions to the provinces of Asia Minor and the islands of the Archipelago; a familiar intimacy with the most respectable of the foreign ministers and their interpreters; and long and not unemployed leisure, and a knowledge of the languages of the country sufficient for the purposes of ordinary communication, must have furnished opportunities for original observation, and have enabled me to discriminate, with greater accuracy than the inexperienced reader, between the imaginary and the real in the relations of former writers.” —*From Preface to ditto.*

† “The dismemberment of the Greek and Roman Empires, the violent political commotions which followed them, the anathemas and proscriptions of which these baths were the object,—all these irresistible causes of destruction have buried in oblivion that institution, precious in so many respects, if those things which are essential to the well-being of the people can ever perish. In the reign of Charles VII. there existed still some Roman Baths; and the bath-men used to go through the streets of Paris crying to the passers-by, ‘Bathe without delay, for the bath is heated!’” —*Translated from the French.*

‡ Extract from Lord Stanley’s Address to the National Association. Section: Public Health:—

“I believe that whatever exceptions may be found in individual instances, when you come to deal with men in the mass, physical and moral decay necessarily go together; and it would be small satisfaction to know that we had, through a series of ages, successfully resisted every external enemy, if we learned too late that that vigour and energy for which ours stands confessedly pre-eminent amongst the races of the world, were being undermined by a secret but irresistible agency, the offspring of our own neglect, against which science and humanity had warned us in vain.”

APPENDIX.

OBJECTIONS TO THE BATH CONSIDERED AND REFUTED.

1. *It is enervating.* This objection arises from persons confounding an excessive amount of bathing, with its use in moderation; and also not distinguishing between properly constructed Thermæ and those whose temperature is too high.

2. *It is a luxury,* and therefore tends to draw away men's minds from the more serious business of life.

Were it possible to make men give up luxuries, this would be all very well, but as they are determined to have some kind of enjoyment, why not choose the most harmless? What are we to substitute for it? The pleasures of the table,—the intoxication of the wine-cup,—the pernicious influences of tobacco, opium, haschish, green tea, and black coffee,—These are men's present luxuries:—we offer them a better!

3. *It is unsuitable to this climate.* Can the objector offer one scientific reason why it should be considered unsuitable? If not, why does he make the objection? He cannot appeal to experience, for all experience is against him. The bath is now daily used in similar climates, colder climates, and more variable climates, and was formerly used in this very country, in many different localities, and for a great length of time.

4. *The benefits of the Thermal Bath may be obtained in other ways,* as by exercise, the cold bath, &c. We admit that this is possible, but deny that men generally either can or will carry it out efficiently. If the cold bath could be always obtained at the right time, *just when free perspiration is established*, it would answer the main purpose for which the bath is designed; but we know that men now cover up their reeking bodies with porous clothing, whose object is to absorb the perspiration, and that such clothing is worn for a considerable time afterwards. There is, therefore, no analogy or comparison between the cases.

5. *It is a loss of time.* What is the object or use of time, if it be not to enable us to “set our house in order,” (bodily and

spiritually,) so as to arrive at the highest perfection of which we are capable? Can anything be accounted a loss of time which enables us to go through more work,—to do that work better,—and which gives that contented mind which is “a continual feast?” We do not ask much, when we advise the reader to give up, once-a-week, one of the hours now devoted to vanity, and spend it in *The Bath*.

The following quotations have been added to show the part taken by the author in the present movement for the introduction of Eastern Baths:—

“A series of articles has just appeared in the *Medical Gazette* of Constantinople, which commence with this explanation of their own appearance:—‘An English physician, Dr. Haughton, has undertaken the journey to Constantinople to investigate upon the spot a subject so full of interest, and in consequence of an Eastern Bath having been recently constructed in the neighbourhood of Cork from plans and directions furnished to the proprietor by the celebrated David Urquhart, &c.’”—*Sheffield Free Press*, May 26th, 1858.

“Dr. Haughton, who read a paper on the Oriental Bath before the British Association, at their Dublin meeting, has followed up the subject with a paper on Hot-Air Baths, in which he shows that a bath of hot air is oftentimes more beneficial than water; and that from the remains which may still be seen, there is ‘abundant evidence that hundreds of years ago this kind of bath was in full operation in this very climate.’ In certain parts of Ireland—Rathlin and on the borders of Fermanagh—there are ‘sweating-houses,’ in shape something like a Hottentot hut, to which the peasantry resort, and rid themselves of painful diseases by copious perspiration. Keep the skin in a proper condition by the use of Hot-Air Baths, says the doctor, and it will not only throw off what is impure from within, but will absorb oxygen from without; gout, rheumatism, and diarrhoea will be mitigated in their effects. ‘I do not advocate a panacea,’ he pursues, ‘but I recommend an institution which will *prevent*, as well as cure disease; which comes down to us from the most remote ages, and is now used by a large proportion of the human race; which is venerable from its antiquity, founded upon science, supported by authority, and confirmed by experience.’”—*Chambers’ Journal*, March 26th, 1859.

“ON THE CONSTRUCTION OF EASTERN BATHS.

“It is very remarkable that the revival of Roman Baths should be due to Ireland, where we find no traces of their former existence; whilst those countries which formerly possessed them will now have to learn from us the manner of their construction. I have already made the public aware of some of the localities where their ruins exist, and of those countries in which they are still in operation; and I have now to inform them that the details of their construction are as varied as the different races and tribes which have employed them. I have spoken of the baths of the East on a former occasion as ‘Hot-Air Baths,’ in order

to draw as wide a distinction as possible between 'Steam Baths' (which are known in this country, and so much used in Russia) and those in which vapour exists but in small quantity, *and does not form the essential feature of the bath*. But it must be admitted that in some Eastern Baths the amount of moisture is often very considerable, so as to make it difficult to select a name which is not calculated to mislead. * * * * If we compare modern Turkish Baths with Roman Thermæ, under the Emperors, we shall find a very great change for the better in the comparative simplicity of Mussulman customs. Indeed, I should be the last man in the country to advocate *the abuse of the bath*, which undoubtedly took place during the decline of the Roman Empire, and which has led many to stigmatise the institution itself, as the cause of evils which could only exist in a people whose energies had been dwarfed by tyranny, and enfeebled by luxury and effeminaey. The *numerous apartments* of these mighty palaces, whose ruins compel our admiration, can never, therefore, become objects of our imitation; but what is much better than external splendour, will be the practical utility and simple elegance of those 'temples of cleanliness,' *which are destined, ere long, to spring up throughout the length and breadth of the Emerald Isle!*"—By EDWARD HAUGHTON, M.D., 1st April, 1859.—*Dublin Builder*.

"THE PURGATORY OF THE BATH."

"Long and persevering homilies from the medical profession on the virtues of water on the functions of the skin have had the happy effect of establishing the cold bath amongst our permanent English institutions, and spreading widely the habit of employing frequent and tonic ablutions with cold water, which may be described as amongst the chief fortifiers of the British constitution, and the wonder, not the envy, of Continental nations. The cold bath is certainly better understood in England than anywhere else. But it may reasonably be doubted whether the warm bath has been studied with equal success. Our notion of warm baths includes merely a great deal of hot water, or hot vapour, and a certain proportion of soap, or medicinal tincture, according to the purposes of the bath. This was not the hot bath of the ancients; this is not the hot bath of the Orientals. They employed a far more ingenious and a far more effective combination of hot air, hot vapour, hot water, and skilful frictions. Such were the baths which Hippocrates, Galen, and Celsus prescribed: such were the baths which Homer sings the praises in the *Odyssey*, and which Herodotus says that even the Seythians used in the Trojan War. These were the baths of which Justin records that the Romans taught the art to the Spaniards as early as the Second Punic War, and of which Julius Cæsar brought the secret even to these islands. Of the stately erections consecrated to the service of the bathers, remains are yet widely extant—monuments of luxury and splendour. The art has long fallen into abeyance in the West, but has survived in the East. Its restoration has been amongst the consequences of the Crimean war. The luxuries of the Turkish Bath were then so widely felt that the attempt to introduce it into Great Britain has met with a deserved success. The credit of this revival is greatly due to Dr. Haughton, who has energetically pressed on the construction of such baths in Ireland, where they have been in use now some time, and are effecting a revolution in bathing, which has only recently extended to London. In these Turkish Baths soap and water are purely secondary agents; they are considered as barbarous, clumsy, and effete means of cleansing. The bather is first conducted into a room, which is practically a large oven, lighted from the top, and filled with moist air. This is very far, however, from being a

Vapour Bath; the quantity of watery vapour is small, and does not affect the transpiration of water by the skin. Of course a profuse sweating is induced, and the skin is thoroughly softened. It is a hot bath without water, or rather with the aid of very little water. From this chamber he passes to another, the calidarium, where, freely perspiring, he is rubbed with towels or goat's hair gloves, and so great is the effect of the prior treatment that the softened cuticle rolls off in thick flakes, and a new skin is found beneath of which the subject of the operation little dreamed. No one who takes a Turkish Bath for the first time but must be astonished at the quantity of unnecessary cuticle which he carries about with him. Adepts tell you that 'it requires great dexterity to perform this well, without rubbing some places too much and others too little.' Now comes a drenching with warm water and soap, which is not the most agreeable part of the bath, and may be considered partially unnecessary. Then the bather passes back to the tepidarium, where he is dried and clothed in warm towels, and, after a pause, then to the frigidarium, or cool chamber, where, still clothed in warm towels, he sips coffee, smokes a narghilé, and indulges in beatific sensations which only those can know who have passed through the three purgatories of the bath. The Turkish Bath is an agent of such great power in restoring the active functions of the skin, and the ordinary results of its application are so peculiarly agreeable and invigorating, that it will probably excite the attention of medical practitioners in its relations to disease. It is a powerful agent, of which the virtues are apparent; but, incautiously employed by persons liable to congestion of the head or organs of the chest, is not free from danger, as some unfortunate circumstances have already proved."—*Lancet*.

[The author begs to say that he does not claim to himself the credit of the construction of the Irish Baths, (as mentioned above,) but simply *priority* in bringing the subject before scientific bodies.]

" BATHS OF THE EAST.

"Dr. Haughton, of Dublin, delivered, last evening, at the Concert-hall, Lord Nelson-street, a lecture on the 'Baths of the East.' Amongst those present were—Mr. Titherington, Mr. Peter Maxwell, Mr. David Stuart, Mr. George Swainson, Mr. W. G. Malcomson, Mr. A. Malcomson, Dr. Drysdale, Mr. Councillor Wagstaff, (Chairman of the Corporation Baths Committee,) Mr. Hay, Mr. Treffry, Mr. Capper, &c.

"Mr. TITHERINGTON presided, and, before introducing Dr. Haughton, said that so much importance was attached in the East to baths, that the Orientals considered bathing a matter of as great importance as the observances of religious rites, the very lowest orders of society even being taught to avail themselves of the luxury and privilege of the bath at certain periods of the day. The chairman then read an extract from *Chambers' Journal*, relative to a paper read by Dr. Haughton before the Royal Dublin Society, which showed the talents and experience, in connection with Turkish Baths, of the lecturer.

"Dr. HAUGHTON, who was received with hearty applause, then addressed the assembly. He first gave an account of the Russian, Moorish, Egyptian, Turkish, Roman, and old Irish Bath, with the distinctive features of each, and then dwelt upon what he styled the *dis-improved* Turkish Baths which are now employed in various parts of the country. The Russian Bath, he explained, had the greatest amount of vapour, the latter, in fact, being so dense that little or nothing else could be seen in the bathing chambers.

It was generated partly by throwing water on red-hot stones or metal, and sometimes in other ways. The Moorish Baths stood next in regard to quantity of vapour, which was generated by boiling water in open vessels, the heat being administered from below, or by water thrown on the heated floor. In connection with this part of the subject, the lecturer read an amusing and forcible extract from the *Arabian Nights*, describing the introduction of baths into Alexandria, and in which the processes of rubbing, shampooing, &c. were minutely detailed. Up to the present hour the baths described in these ancient writings were conducted upon the same principles. The Egyptian Baths were less moist, fountains or tanks of hot water being employed to vaporise them. In the Turkish Baths, which contained somewhat less moisture, than the above, it was generated by allowing water to flow over the heated floors. In the Roman Baths there were no fountains to produce moisture or vapour, but there was a vessel called the 'Labrum,' containing hot water, and in which bathers used to wash their heads. In some Roman Baths, also, water was allowed to run over the floor. In the old Roman Bath the amount of vapour was slightly less than in the Turkish. The old Irish Baths differed from all those mentioned, in having no moisture whatever. There were some remains of these baths still scattered over the country, and a bath was still conducted upon this plan at Rathlin Island, (county Antrim.) It was built of turf and stones, somewhat in the shape of a beehive, and heated by fuel being burned within, like a baker's oven; and this fuel being afterwards withdrawn, the floor was covered with green rushes. The bather or bathers then entered, all their clothes except one garment being removed. The place was perfectly dark, and, after remaining the necessary time, the bathers were either dipped into the sea, which was close at hand, or conveyed elsewhere to cool. Alluding to the *dis-improved* baths of London and elsewhere, the lecturer contended that the great heat of 180 degrees was inconsistent with the Oriental Bath, and was rendered necessary by the fact that the atmosphere in the *dis-improved* baths was entirely dry; whereas, if moisture were admitted, perspiration would be induced at a much lower temperature. This was the grand objection to the Dry Air Baths. Nor, the lecturer contended, was the terrible process of pulling all the joints (under the name of shampooing) as described in *Chambers' Journal*, *apropos* of the ——— Baths, London, at all necessary or consistent with the true use of Turkish Baths. Many persons did not perspire at all in the Dry Air Baths, whereas in those where vapour was introduced perspiration was not only sure, but natural and easy. There was an economy of time, too, in the Oriental Bath upon proper principles, which formed one of its most important advantages in a busy town like that of Liverpool. A very good bath, as far as health and comfort were concerned, might be had in from half an hour to three-quarters where moisture was admitted; but in a perfectly Dry Air Bath not less than an hour was required even at a temperature of 150 degrees. The dry hot air system of bathing was often attended with extreme danger, particularly in delicate cases, a bad effect being produced upon the pulse, lungs, and heart, when, in spite of the great heat, no perspiration took place, from the pores being clogged up by various accumulations. Dwelling upon the point of remuneration, were the true Oriental Baths established in Liverpool, the lecturer said that at the prices hitherto charged, they had been known to pay from 15 to 20 per cent. This system of bathing, he said, increased the appetite, and solidified the flesh; and at a temperature of 130 degrees, with water flowing through the bath, it would be moist enough to soften the skin, hot enough to start the perspiration, and dry enough to admit of evaporation. In conclusion, Dr. Haughton said that a

committee had been established for the purpose of building in Liverpool a genuine Turkish Bath, safe and pleasant to take, cheap, and available both for rich and poor.—(Cheers.)

“The CHAIRMAN intimated that steps were in progress for the establishment of a company, which there was every reason to believe would be a successful one.”—*Liverpool Mail*, Jan. 19, 1861.

“ON THE TURKISH BATH.

“Amongst the Saracens, as also amongst the Romans, the planning, repair, and building of baths was one of the most important, as it was also the most popular of imperial functions. At Rome the *Thermæ* were held in such estimation, that the worst and most cruel of the Emperors, such as Caracalla and Nero, obtained the endearing appellation of ‘*Pater Patriæ*,’ (fathers of their country,) for no other reason than that they erected *Thermæ*. Pliny exhorts Trajan, by the ‘glory of his reign,’ to rebuild the bath at Prusa; and the Saracens, not a whit behind in this respect, placed these edifices, by an express law, under the guardianship and protection of the Crown. * * * The baths of the large cities are architectural ornaments; but for practical cleanliness there can hardly be found a Mussulman village, either in Asia, Africa, or Europe, unprovided with its bath. * * * Turkish Baths, *so called*, have sprung up like mushrooms in various parts of the metropolis, and many are crowded; but those who have undergone the process of the hot-air bath and shampooing at these extemporized *Thermæ* on the banks of the Thames, have a faint idea of the luxurious enjoyment and restorative efficacy of the Turkish Bath. As, however, there are no less than three joint-stock companies in the field, we may look forward to the erection of baths on a magnificent scale, with ample space, and complete arrangements for performing the various processes of the bath in the most perfect and delicate way. Under the direction of superintendents, qualified by medical knowledge and practical skill to minister to the health and comfort of the visitors, nothing need be wanting to the full and scientific development of the thermal system, *which will be found alike beneficial to the rich and the poor.*”—*Cornhill Magazine*, March, 1861.

TRAINING BY THE BATH.

Additional confirmations of the value of The Bath for “training” purposes are every day being brought forward: but the most satisfactory account which has yet appeared of its employment with race-horses is one by Admiral Rous, in *Baily’s Sporting Magazine*, in which its superiority over the means hitherto used is forcibly demonstrated.

Thus the use of The Bath in improving the physical condition of man is rendered doubly certain by its effects on the lower animals; and will probably be put into requisition by professional acrobats, and the “artistes” of equestrian circuses.

OPINIONS OF THE PRESS ON PART II.

“This pamphlet, from the pen of a gentleman whose name is already known to our readers as the contributor of valuable papers on kindred subjects, details the *modus operandi* in vogue in Oriental countries, and the sanitary effect of the bath on the human frame. The author does not, like others, advance opinions haphazard, but speaks from experience founded on personal observation in ‘the City of the Sultan,’ and elsewhere. Though the magnificent establishments at Lincoln-place and Bray may, by their architectural show surprise the optical faculty of the ‘Western,’ and by the completeness of their appointments minister more perfectly to the luxury of the baths, *yet, in principle, they are identical with the old Irish sweating-houses, and present nothing of novelty whatever.*”—*Dublin Builder*, April 1st, 1860.

“For all those who wish to master the philosophy of the Turkish or Oriental Bath as a remedial agent, we have but one advice, and that is to read Dr. Haughton’s paper, read before the British Association, and now published in a pamphlet. It deals with the subject comprehensively, and both scientifically and medically. The writer will probably convert, by his reasoning and statement of his own experience, nine out of every ten of his readers now disposed to ridicule the bath as a piece of quackery, or, perhaps, to describe it as a perilous luxury. The prejudice against these baths is gradually wearing away; Dr. Haughton shows how unfounded it is, and of what immense importance is a really clean skin, how much it has to do with the health of the frame, and the activity of the mind. The Oriental Bath has no more talented advocate than Dr. Haughton.”—*Dublin Warder*, March 10th, 1860.

“The essay is not only a display of a considerable amount of research on the part of the author, but also of no mean talents. The history is neatly written, and the remarks given with great care. All who wish to be made fully aware of the nature and benefits of this very ancient method of cleansing the skin should see this essay. In 1857 it was read before the British Association for the Advancement of Science.”—*Chester-le-Street Liberal*, July 14, 1860.

“This is an essay which was read before the British Association for the Advancement of Science in the year 1857. Dr. Haughton, the author, appears thoroughly conversant with his subject, and the essay is not only readable, but deeply interesting, and highly instructive. That it will have the effect of drawing public attention to the ‘Oriental Bath’ is extremely probable, and if it does, society can hardly fail in the end to be benefited. We have been accustomed to hear such a bath as the one alluded to spoken of as the ‘Turkish Bath,’ but the ‘Oriental Bath’ is an institution not Turkish at all, but coincident with every stage of eastern civilization, and at one time possessed by the greater portion of Europe, and even by Great Britain itself, so long as the Romans held dominion in these islands. It would be well in this matter if we could go back to ‘the good old times.’”—*Northern Journal*, (Newcastle,) June 1st, 1860.

THOMAS JONES,
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T. J. begs respectfully to draw the attention of the public to the above apparatus, patented by him for Heating and Ventilating Houses and Public Buildings, the objects of which are as follows:—

1. For Ventilation.
2. For Curing Smoky Chimneys.
3. For heating the room, and at the same time supplying the fire with means for combustion, thus doing away with the disagreeableness of having to open either window or door, and also for diffusing the heated air into all parts of the room.
4. For preventing the drawing of impure air from other parts of the house, such as smells from the kitchen, &c.
5. For introducing hot air into the adjoining rooms, or any room above, which will prevent the necessity of making fires in those rooms.

The above is admirably adapted for airing Harness Rooms, Coach Houses, Stables, &c.; also, for heating Conservatories, thus heating many rooms from one small fire-grate, and causing no more extra expense, and which can be attached to any grate where the fire is usually made.

This apparatus is admirably adapted by its ingenious application to Cottage Houses, where the cellar kitchen fire would heat the whole of the rooms above. By adopting this principle of heating a saving of 60 per cent. of the fuel on the old principle may be effected.

The risk of fire would also be very greatly diminished by this mode of heating, in a Nursery for instance, where, by the means of an indicator, the room may be kept in any temperature that may be required without any risk of fire whatever.

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T. J., in introducing to the attention of the public the capabilities and qualities of his New Hydraulic Cement Flooring, would particularly allude to the following characteristics as being eminently adapted to corporate or domestic purposes, and which for durability, hardness, and extreme moderation in price, will excel in its application every purpose for which the ordinary stone flagging is now so generally used:—

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